CLAIMS

What is claimed is:

1. A packet switching system comprising:

a packet stream splitter; and

a plurality of configurable filters coupled to the packet stream splitter;

wherein the packet stream splitter is configured to provide a received packet stream to each of the plurality of configurable filters; and

wherein each of the plurality of packet stream splitters are configured to forward a different identifiable first set of packets or to drop a different identifiable second set of packets, and wherein there is at least one packet in the first or the second sets of packets.

2. The packet switching system of claim 1, wherein the first and second sets of packets for a particular one of the plurality of configurable filters are different than the corresponding first and second sets of packets of a different particular one of the plurality of configurable filters.

3. The packet switching system of claim 2, wherein no packet is included in the first set of two or more of the plurality of configurable filters.

4. The packet switching system of claim 2, wherein no packet is included in the second set of two or more of the plurality of configurable filters.

5. The packet switching system of claim 2, wherein a particular packet received by each of the plurality of filters is forwarded by at most one of the plurality of filters.

6. The packet switching system of claim 1, wherein each of plurality of filters is configured to forward all packet traffic in response to a first signal.

7. The packet switching system of claim 1, wherein each of plurality of filters is configured to drop all packet traffic in response to a second signal.

8. The packet switching system of claim 1, wherein each of the plurality of configurable filters determines whether to drop or forward a particular packet based on at least one value contained within the particular packet.

9. The packet switching system of claim 1, wherein each of the plurality of configurable filters determines whether to drop or forward a particular packet based on a value of a source address, a destination address, a packet type, or a quality of service of the particular packet.

10. The packet switching system of claim 1, wherein the packet stream splitter includes an optical splitter.

11. The packet switching system of claim 1, wherein the packet stream splitter includes an electrical splitter.

12. The packet switching system of claim 1, further comprising a first packet switch connected to a first one of the plurality of filters and a second packet switch connected to a second one of the plurality of filters.

13. The packet switching system of claim 12, further comprising a packet stream merger coupled to the first and second packet switches.

14. The packet switching system of claim 1, further comprising a first packet switch interface connected to a first one of the plurality of filters and a second packet switch interface connected to a second one of the plurality of filters.

15. A packet switching system comprising:

a packet stream splitter; and

a first and a second configurable filters coupled to the packet stream splitter, the first and the second configurable filters each including a normal operating state;

wherein the packet stream splitter is configured to provide a received packet stream to each of the first and the second configurable filters; and

wherein when the first and the second configurable filters are in their respective normal operating states: a particular packet is forwarded only by one of the first and the second configurable filters and both the first and second configurable filters are configured to forward at least one packet.

16. The packet switching system of claim 15, wherein the first configurable filter further includes an all packet forwarding state, wherein the first configurable filter is configured to switch between the normal operating state and the all packet forwarding state in response to a signal.

17. The packet switching system of claim 16, wherein the signal is generated in response to detection of an error condition affecting a set of packets forwarded by the second configurable filter.

18. The packet switching system of claim 17, wherein the second configurable filter further includes an all packet blocking state, wherein the second configurable filter is configured to switch between the normal operating state and the all packet blocking state in response to the signal.

19. The packet switching system of claim 15, wherein the first and the second configurable filters determine whether to drop or forward a particular packet based on at least one value contained within the particular packet.

20. The packet switching system of claim 15, wherein the first and the second configurable filters determine whether to drop or forward a particular packet based on a value of a source address, a destination address, a packet type, or a quality of service of the particular packet.

21. The packet switching system of claim 15, wherein the first and the second configurable filters are each configured to forward approximately one-half of the packets received by the respective first or second configurable filter.

22. A packet switching system comprising:

means for providing a first and a second packet streams from a single received packet stream;

a first means for filtering and forwarding the first packet stream; and

a second means for filtering and forwarding the second packet stream;

wherein the first and the second means for filtering and forwarding are each configured to forward a different identifiable first set of packets or to drop a different identifiable second set of packets, and wherein there is at least one packet in the first or the second sets of packets.

23. A method comprising:

receiving a stream of packets;

providing the stream of packets to a first and a second configurable filters;

the first configurable filter determining whether or not to forward a particular packet from the stream of packets based on a first programmable filtering scheme;

the second configurable filter determining whether or not to forward a particular packet from the stream of packets based on a second programmable filtering scheme;

wherein a particular packet is forwarded only by one of the first and the second configurable filters and both the first and second configurable filters are configured to forward at least one packet.

24. The method of claim 23, further comprising:

the first configurable filter receiving a first signal;

the first configurable filter, in response to receiving the first signal, modifying its filtering scheme to forward all packets or to drop no packets;

the second configurable filter receiving a second signal; and

the second configurable filter, in response to receiving the second signal, modifying its filtering scheme to forward no packets or to drop all packets.

25. The method of claim 23, wherein the first and the second configurable filters determine whether to drop or forward a particular packet based on at least one value contained within the particular packet.

26. The method of claim 23, wherein the first and the second configurable filters determine whether to drop or forward a particular packet based on a value of a source address, a destination address, a packet type, or a quality of service of the particular packet.

27. The method of claim 23, wherein the first and the second configurable filters are each configured to forward approximately one-half of the packets received by the respective first or second configurable filter.

28. A computer-readable medium containing computer-executable instructions for performing the method of claim 23.